

AMENDMENTS TO THE CLAIMS

Claim 1 (Original): A leak detection system for a flowing electrolyte battery comprising:

at least one containment member associated with at least one of a stack of a flowing electrolyte battery and an electrolyte reservoir of a flowing electrolyte battery;
and
means for sensing a fluid leak within the containment member.

Claim 2 (Original): The system of claim 1 wherein the sensing means comprises:

at least one switch comprising a first plate and a second plate;
wherein fluid within the containment member serves to electrically couple the first plate to the second plate, to, in turn, close the switch;
a controller associated with the switch, the controller capable of sensing the condition of the switch; and
a connector electrically associating the switch and the controller.

Claim 3 (Original): The system of claim 2 wherein the sensing means further comprises:

a resistor positioned in parallel to the switch.

Claim 4 (Original): The system of claim 2 wherein the at least one switch comprises a plurality of switches positioned in parallel.

Claim 5 (Original): The system of claim 1 wherein the at least one containment member comprises:

at least one stack leak containment member associated with at least one stack; and
at least one electrolyte reservoir leak containment member associated with at least one reservoir.

Claim 6 (Original): The system of claim 5 wherein the sensing means is capable of sensing a leak in each of the stack leak containment member and the at least one electrolyte reservoir leak containment member.

Claim 7 (Original): A leak detection system for a flowing electrolyte battery comprising:

at least one containment member associated with at least one of a stack of a flowing electrolyte battery;

at least one containment member associated with an electrolyte reservoir of a flowing electrolyte battery; and

means for sensing a fluid leak within one of the containment members,

wherein the sensing means comprises:

at least one sensor having at least one switch positioned within one of the containment members such that a leak collecting in the respective containment member triggers the switch;

at least one controller associated with the sensor; and

a connector associated with each of the sensor and controller.

Claim 8 (Original): The leak detection system of claim 7 wherein the sensor includes a plurality of switches.

Claim 9 (Original): The leak detection system of claim 8 wherein the plurality of switches are positioned substantially in parallel.

Claim 10 (Original): The leak detection system of claim 7 wherein the sensor includes at least one resistor positioned in parallel with the at least one switch.

Claim 11 (Original): The leak detection system of claim 7 wherein the controller includes a means for signaling the condition of the sensor to a user.

Claim 12 (Withdrawn): A method for detecting leaks in a flowing electrolyte battery comprising the steps of:

providing at least one containment member for at least one of the stack and the reservoir;

providing at least one sensor;

positioning at least one sensor such that a leak collected in the at least one containment member triggers the sensor;

providing a controller; and

associating the controller with the at least one sensor, such that the controller is capable of electrically communicating with the sensor.

Claim 13 (Withdrawn): The method of claim 12 wherein the step of providing at least one containment member comprises the steps of:

providing a stack containment member;

positioning the stack containment member such that a leak from the stack is collected by the stack containment member;

providing a reservoir containment member; and

positioning the reservoir containment member such that a leak from the reservoir containment member is collected by the reservoir containment member.

Claim 14 (Withdrawn): The method of claim 13 wherein the step of providing a sensor comprises the steps of:

providing a sensor for the stack containment member; and

providing a sensor for the reservoir containment member.

Claim 15 (Withdrawn): The method of claim 14 wherein the step of positioning the at least one sensor comprises the steps of:

positioning a sensor in the stack containment member such that a leak collected in the stack containment member triggers the sensor; and

positioning a sensor in the reservoir containment member such that a leak collected in the reservoir containment member triggers the sensor.

Claim 16 (Withdrawn): The method of claim 12 further comprising the step of sensing a fluid leak.

Claim 17 (Withdrawn): The method of claim 16 further comprising the step of determining the type of fluid leak.

Claim 18 (New): A leak detection system for a flowing electrolyte battery having electrolytic fluid and a plurality of stacked cells, the system comprising:

a container disposed underneath and in close proximity to the plurality of stacked cells, the container collecting electrolytic fluid leaking from the plurality of stacked cells; and

a sensor disposed in the interior of the container, the sensor detecting the presence of fluid in the container.

Claim 19 (New): The leak detection system of claim 18, wherein the sensor comprises resistivity measurement circuitry.

Claim 20 (New): The leak detection system of claim 19 further comprising:

leak detection logic, the leak detection logic in electrical communication with the resistivity measurement circuitry;

wherein, the leak detection logic determines the presence of electrolytic fluid based, at least in part, on the output of the resistivity measurement circuitry.

Claim 21 (New): A leak detection system for a flowing electrolyte battery having a reservoir containing electrolytic fluid, comprising:

a container disposed underneath and in close proximity to the reservoir, the container collecting electrolytic fluid leaking from the reservoir; and

a sensor disposed in the interior of the container, the sensor detecting the presence of fluid in the container.